

174 H900 1.00

Work Order ID 81733

81733

Page 1

March-16-12 3:16:58 PM

Item ID: D3691-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: STUD

Start Date: 16/03/2012 Start Qty: 30.00

30

Cust Item ID:

Required Date: 23/04/2012 Req'd Qty: 30.00

30

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/03/19 Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3691	Rev D								

100

100

BAND SAW

0.00

Bandsaw

Memo

0.00

Jeaspa Bandsaw

DO NOT USE CHOP SAW

Cut blank 7.750" long

SL 126110

30 ϕ

110

110

DOOSAN LATHE

0.00

Doosan

Memo

0.00

Doosan Lathe

1-Turn as per Folio FA716 Rev: 44 & Dwg D3691 Rev: 1 2-Deburr
per dwg D3691
3-Check .625" bore with DT9530 GO/NO GO Gauge

30 ϕ

160

160

QC2- Inspect parts off machine FAI/FAIB

0.00

QC

Memo

0.00

Quality Control

30 ϕ

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
		14						

NOTE: Date & initial all entries

Work Order ID 81733

81733

Page 2

March-16-12 3:16:58 PM

Item ID: D3691-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: STUD
Start Date: 16/03/2012 Start Qty: 30.00 ***30*** Cust Item ID:
Required Date: 23/04/2012 Req'd Qty: 30.00 ***30*** Customer:
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	QC8- Inspect parts - second check	0.00							
170									
QC	Memo	0.00							
Quality Control	100% CHECK,CHECK ALL DIMENSIONS AND THREAD FIT								
171		0.00							
171									
Purchasing	Memo	0.00							
Purchasing	Liquid Penetrant Inspection as per QSI 038 Issue P/O: <u>17380</u> LPI as per dwg D3691 Attach copy of NDT results to work order								
173	Receive & Inspect for Damage & Mat'l Certs	0.00							
173									
Packaging	Memo	0.00							
Packaging									

enl 12/07/03

30

CL 12/07/09 (30)

P/p/s (30)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Work Order ID 81733***81733***

Page 3

March-16-12 3:16:58 PM

Item ID: D3691-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: STUD
Start Date: 16/03/2012 Start Qty: 30.00 ***30*** Cust Item ID:
Required Date: 23/04/2012 Req'd Qty: 30.00 ***30*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
175	QC5- Inspect part completeness to step on W/O	0.00							
175									
QC	Memo	0.00				(30)			12/07/09
Quality Control									
180	Identify as per dwg & Stock Location: <i>GA</i>	0.00							
180									
Packaging	Memo	0.00				30			12/07/09
Packaging									
190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.00							
Quality Control									

CK 12/7/10
ME 12-07-09

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

March-16-12 3:17:03 PM

Page 1

Work Order ID: 81733

81733

Parent Item: D3691-1

D3691-1

Parent Item Name: STUD

Start Date: 16/03/2012

Required Date: 23/04/2012

Start Qty: 30.00

Required Qty: 30.00

Comments: IPP Rev:A New Issue 08-01-29 JLM Verified By:EC
 IPP Rev:B Material Change 09-01-07 JLM Verified By:EC IPP
 REV:C AS PER REV D 10-03-16 JLM VERIFIED BY:EC
 IPP Rev:C Added note on Step 2 09-01-26 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M174PH-H900R1.000		Purchased			No		f	45.2000		21.91096			
M174PH-H900R1 000									**				
17-4SS H900 ROUND BAR 1.00													

1216110

Location	Loc Qty	Loc Code
MAT030	45.2	
117445	21.2	
120767	24	

121280
121918

18 Rt
2 Rt

W/O:		WORK ORDER CHANGES					
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	81733
Description: Stud		Part Number:	D3691-1
Inspection Dwg: D3691	Rev: D	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.695	+/-0.010	0.675	/		SA-9	Vern
45°	0.5°	45°	/			
0.625	+0.004/-0.000	0.627	/			
1.25	+0.000/-0.03	1.285	/			
118°	0.5°	118°	/			
R0.03	+/-0.030	R0.03	/			
0.11 Ref	+/-0.030	0.11	/			
90°	0.5°	90°	/			
Ø0.189	+0.005/-0.001	0.181	/			
1.31	+/-0.030	1.330	/			
1.65	+/-0.030	1.620	/			
0.750	+0.000/-0.010	0.747	/			
Ø0.659	+0.000/-0.015	0.649	/			
7.625	+/-0.015	7.630	/		SA-3	Vern 12"
2.90	+/-0.030	2.855	/			
3/4-16UNF-2A	N/A		/			
0.075 x 45°	+/-0.010 x 0.5°	0.075 x 45°	/			
0.375	+0.000/-0.010	0.375	/			
Ø0.189	+0.005/-0.001	0.181	/			
R0.25	+/-0.030	R0.25	/			
R0.50	+/-0.030	R0.50	/			

Measured by: SA	Audited by: ank	Prototype Approval:	N/A
Date: 12/6/10	Date: 12/07/03	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	09.05.11	New Issue	KJ	
B	09.11.04	Dwg Rev updated	KJ	
C	10.03.31	Dimensions revised per Dwg Rev D	KJ	

Dart Aerospace Ltd

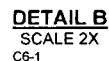
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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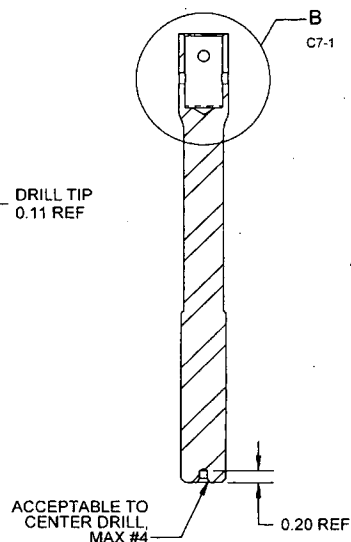


SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 81733 MLJ
12/03/19

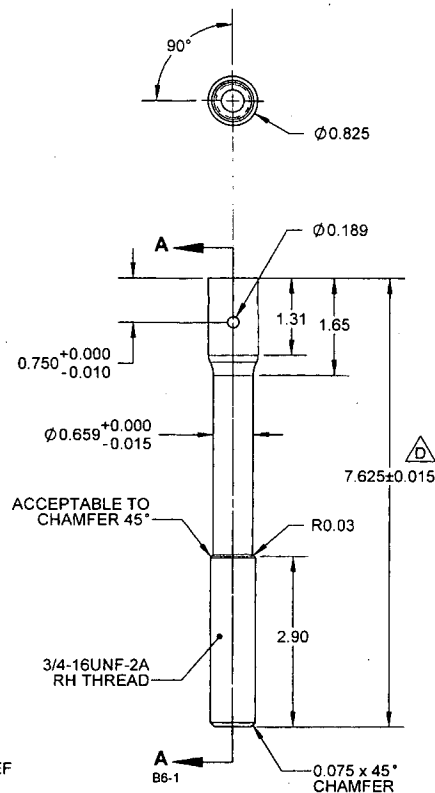
NOTES:

- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.81 lb
8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

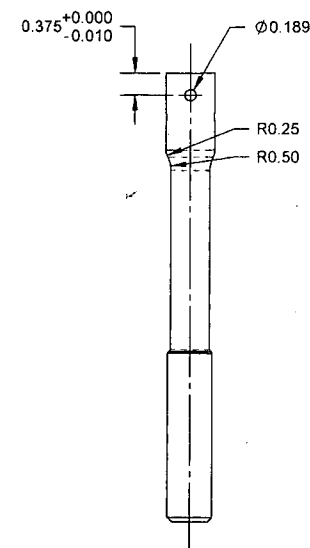


SECTION A-A



D4-1



D3691-1 STUD



RELEASE
2010-03-15

D	7.825 WAS 7.750 (ZN C4-1)	RF	10.03.03
C	0.20 WAS 0.16 & CENTER DRILL #4 WAS CENTER DRILL #2 (ZN B6-1); UPDATE NOTE & TO REF QSI (ZN A8-1)	RF	09.09.09
B	CHANGE TO 17-4PH H-900 (ZN A8-1); Ø0.635 WAS Ø0.665 (ZN D8-1); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.11.24
A	NEW ISSUE	RF	08.03.12
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. REV. I OF D3691 TITLE SCALE STUD NT COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE	
DRAWN	RF		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.03.03		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NOTE: Date & initial all entries



LIQUID PENETRANT TEST REPORT

P- 12193

CLIENT DART Aerospace DATE July 6-2012 PAGE 1 OF 1
ATTENTION LINDA/ANDY ACUREN JOB No. 180-12-C0278 TIME AM ☒ PM ☐
ADDRESS 1270 ABELDEN ST. HAWKESBURY PO/WO No. 17380
ON. WORK LOCATION SAME
ACCEPTANCE STD. ASTM 1417/05-038 REV./DATE 2008
PROJECT F.P.I. on MACHINED PARTS
ITEM(S) EXAMINED RAPPEL'S, STUD'S, SLEEVE'S

JOB DESCRIPTION PROCEDURE No. LT-002 REV./DATE 2008 TECHNIQUE No. LT-002 REV./DATE 2008
PART No. SEE RESULTS MATERIAL STAINLESS STEEL THICKNESS VARIOUS
SCOPE A WET FLUORESCENT LIQUID PENETRANT EXAMINATION
WAS COMPLETED ON SURFACE 100%

TEST DETAILS

METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
FAMILY BRAND MAGNA FLUX BLACK LIGHT S/N 16459 ☐ OUTPUT > 1000 μ W/cm² ☐ AMBIENT < 2 fc
PENETRANT 2LG7 MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER H2O MINIMUM DRY TIME >10 MIN. OTHER LABINO
DEVELOPER SADSS2 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N 1098866 CAL DUE DATE July 26
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY 2012

TEST SURFACE

SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
SURFACE TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

RESULTS- ☒ METRIC ☐ IMPERIAL

5	W.O. #	STUD	
30	81735	" "	✓
16	81733	" "	✓
	83359	" "	✓
5	W.O. #	RAPPEL	
	84719	" "	✓
15	W.O. #	SLEEVE	
	83358	" "	✓

m/12.07.09

Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE Andy Sheldon PRINT SIGNATURE ASheldon DTR # E-163066
TECHNICIAN (SIGNATURE): [Signature] REPORT REVIEWED BY:
NAME (PRINT): Mike Jones 1ST TECHNICIAN 2ND TECHNICIAN
CGSB LEVEL 2 SNT LEVEL _____ CGSB LEVEL _____ SNT LEVEL _____
CGSB REG. NO. 6606 CGSB REG. NO. _____